Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

PROPOSED TITLE V PERMIT NO. V-04-058 R3
OWLS HEAD ALLOYS, INCORPORATED
BOWLING GREEN, KY
APRIL 10, 2008
SANDRA COOKE, REVIEWER
PLANT I.D. # 021-227-00135
A.I. # 40313

ADMINISTRATIVE AMENDMENT: V-04-058 R3

On March 17, 2008, the facility submitted a letter pointing out a few typographical errors in the R2 version of the Permit. The processing rate numbers for Emission Point 09, Outside Scrap Processing Area, as well as the rotational speed of the Pre-ripper were not the same in the permit as those submitted by the company in its application for changes to this emissions point under Revision 2. Since the correct application numbers were used in calculating potential emissions and in analyzing the impact of the projects for Emission Point 09 on the source, the processing rate for Emission Point 09 has been changed to 30,000 lbs per hour and the rotational speed for the Pre-ripper has been changed to 55 rpm in the Permit under this administrative amendment. Minor corrections within the body of the permit, specifically in Sections C, F and G, have been made to reflect current regulations.

SOURCE DESCRIPTION:

On December 12, 2004, the Division issued the proposed determination on the Title V permit for Owls Head Alloys, Incorporated in Bowling Green, Kentucky. This permit became final after 45 days. On June 28, 2005, the plant requested the registration of a new piece of equipment as an insignificant activity. The equipment, located outdoors in the scrap yard, is used to break apart the bales of compacted aluminum scrap brought to the facility for processing. The Division determined that although the predicted emissions for the bale breaker are very small, the equipment could not be considered an insignificant activity and the original Title V permit would therefore require a minor revision. However, an additional request from the source was received in May of 2006 to add two Rotary Furnaces and related equipment to the plant and modify certain sections/wording within the existing permit. Since the additions effectively double the source's output, a major permit revision was required. The two applications have therefore been combined in this one revision.

Investigation of baler shows that although the manufacturer lists it as a shredder, the purpose of the equipment is to break apart compacted masses of aluminum cans and scrap material. This allows for the inspection of the scrap and removal of steel and other items that could interfere with the chemistry of the final product. Pulling apart the materials also makes the removal of steel items, via overhead magnet, much easier and more thorough. The removal of steel materials is necessary as steel is not compatible with the aluminum melting process. The Division has determined that this piece of equipment is a bale breaker and therefore it is not subject to the requirements for shredders under 40 CFR 63, Subpart RRR. In order to maintain the bale breaker status, the device must be used only for pulling apart bales, and the speed shall never increase above the current 25- rpm setting. Also, since it is located out of doors, there is a potential for fugitive emissions of particulate. Due to this, the equipment will be subject to the fugitive regulation, 401 KAR 63:010.

The addition of two more rotary furnaces, identical in make, model and capacity to the original two furnaces will double the facility's potential processing rates, but will not trigger any new permit requirements. The additions will be subject to same production-based mass emission limits as the original furnaces and will be required to meet the same testing, monitoring, recordkeeping, reporting, and control equipment operating conditions as well.

On June 18, 2007, this source requested a second revision to their permit to allow the construction of a low-speed pre-ripper and an air knife to further break apart scrap materials for the removal of non-aluminum elements in order to improve the chemistry of their final product. The request also proposed the construction of a vacuum hood that would extend over the new equipment as well as the bale breaker added under Revision 1 of the permit. This hood would be vented through a baghouse filtration system. The request was submitted as a possible 502 (b) (10) change, but was determined to require a minor permit revision review.

Investigation of the pre-ripper shows that it is another low speed, high torque device much like the bale breaker added in first revision to this permit and would not be subject to the requirement of a shredder set forth under 40 CFR 63, Subpart RRR. In order to maintain a non-shredder status, the speed of the equipment must never increase above the 55-rpm setting cited in the application. The air knife also removes materials not compatible with the aluminum melting process. Since the new equipment is located out of doors, it will be subject to the fugitives regulation, 401 KAR 63:010. The voluntary addition of a hood and baghouse should actually decrease particulate release from the site since the original bale breaker will now be covered by this control device.

In conclusion, a thorough analysis has been made of all relevant information available that pertains to this source. The Division has concluded that compliance with the terms of the permit will ensure compliance with all air quality requirements. Therefore, it is the Division's determination that a proposed Title V permit revision should be issued as conditioned.

CREDIBLE EVIDENCE:

This permit contains provisions that require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

INDIVIDUAL UNIT, OPERATION OR ACTIVITY EMISSION AND OPERATING CAPS FOR REVISION:

09 (09) Outside Scrap Processing

Description: The Outside Scrap Processing area consists of a low speed bale breaker and a low-speed pre-ripper, both of which are located under a vacuum hood that exhausts to a baghouse. The outside scrap bale breaker breaks apart the large, compacted bales of aluminum scrap brought to the facility for processing. This allows for inspection of the material for dangerous objects (such as fire extinguishers) and incompatible metals and allows the magnets to remove steel from the bundles. The process may also loosely crumple larger, unwieldy pieces of aluminum, but should not shred the material. Scrap bales are placed into the device by a loader vehicle via the in-feed hopper. The material then passes through a group of metal "fingers" at the bottom of the feed which pull the materials apart and deposit them on a conveyor. The material passes under the magnet before

entering the building for processing. This device has minimal emissions. The processing rate is 30,000 lbs/hr. The 55 rpm pre-ripper which provides additional separation of materials, also has minimal emissions. This equipment is intended to improve the aluminum chemistry by allowing an air knife to remove additional non-compatible materials. The Bale Breaker and pre-ripper will be hooded with emissions passing through a baghouse.

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operations

401 KAR 63:010, Fugitive emissions

1. <u>Operating Limitations</u>:

a. The permitee shall take reasonable precaution to prevent fugitive dust emissions from becoming airborne. Visible dust emissions beyond the property line are prohibited.
[401 KAR 63:010]

b. The bale breaker and pre-ripper shall only be used to break apart bales of materials. The devices shall not be used to re-size larger, individual pieces of scrap or used as shredders. The speed of the bale breaker and the pre-ripper shall not increase above 25 rpms and 55 rpms, respectively.

Compliance Demonstration:
The permittee shall keep monthly records of all precautions taken to limit fugitives, including, but not limited to, sweeping and water sprays used to control dust. Permitee shall also keep maintenance records for the devices that indicate the speed of the devices, and verification that the speed has not exceeded the applicable operating limit.

<u>Emission Limitations</u>:
Pursuant to 401 KAR 59:010

i. Section 3 (1), opacity shall not exceed 20%.
ii. Section 3 (2) hourly particulate emissions for each emission point shall not exceed the following limit:

For process rates up to 1,000 lbs/hr: $E = 2.34$
For process rates up to 60,000 lbs/hr: $E = 3.59\ P^{0.62}$
For process rates in excess of 60,000 lbs/hr: $E = 17.31\ P^{0.16}$

For the equations: E = rate of emission in lb/hr and P = process weight rate in tons/hr (monthly throughput in tons/monthly hours of operation).

<u>Specific Control Equipment Operating Conditions</u>:

a) The control equipment shall be operated at all times when the associated emission units are in operation.
b) The permittee shall maintain on site a daily log of the pressure drop across the baghouse and ensure all parameters remain within the range recommended by the manufacturer and/or standard operating practices.

PUBLIC AND EPA COMMENTS

Per 401 KAR 52:020, an administrative revision does not require public notice. The U.S. Environmental Protection Agency (EPA) was notified of the application for an Administrative Revision on April 11, 2008.